



Waste Management  
ENVIRONMENTAL QUALITY

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November 10, 2016

Jeffrey Hinton, Director  
US Commission on Civil Rights  
Suite 16T126  
61 Forsyth Street, SW  
Atlanta, Georgia 30303

Dear Mr. Hinton,

The N.C. Department of Environmental Quality (DEQ) is committed to ensuring that communities subject to Title VI of the Civil Rights Act of 1964 are not negatively impacted by newly proposed and expanded coal ash landfills. A study has been conducted by DEQ in recent months to evaluate the communities surrounding the landfill sites.

Roxboro Steam Electric Plant is in an approximately 93-acre property in Person County, in Semora, N.C. and is situated along Hyco Lake to the north. The Roxboro Steam Electric Plant is the fourth of Duke's sites to be studied by department staff. Attached to this letter you will find the study.

The study included an assessment of the race and ethnicity, income, sex, disability, age and English proficiency of residents near the Roxboro Steam Electric Plant. DEQ has determined that the existing solid waste management facilities at the Roxboro Steam Electric Plant do not impose disproportionately high or adverse environmental harm to residents in these target populations. We are asking for you to review this study and acknowledge to the DEQ any recommendations or comments on this study within 30 days. Also, please provide any feedback to us on the process which we have undertaken and any suggested changes, as we will be working through numerous environmental justice studies at Duke Energy disposal sites. Two copies of the report are enclosed; please forward one copy to the appropriate Regional Advisory Committee.

Thank you for taking the time for this review. We look forward to hearing from you.

Sincerely,

Michael Scott, Division of Waste Management Director

EC: Matthey Lazo-Chadderton, US Commission on Civil Rights  
North Carolina Advisory Committee

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EPA EJScreen, <https://ejscreen.epa.gov/mapper/>

U.S. Census Bureau, American Fact Finder, <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

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## Introduction

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. This report summarizes a study of the demographic and environmental conditions in Person County in North Carolina, Census Tracts 9202, and a one-mile radius around the Roxboro Steam Electric Plant property. Duke Energy is proposing to construct and operate a landfill for the disposal of coal combustion residuals (CCR) on the Roxboro Steam Electric Plant property located at 1700 Dunaway Road, Semora, N.C. 27343. The study was completed to identify disproportionately high or adverse environmental and human health effects on low income or minority populations. This report also details the actions taken by the N.C. Department of Environmental Quality in response to the results of the study.

### 1 Environmental Justice Evaluation

Officials with the N.C. Department of Environmental Quality (department or NCDEQ) administration stated in a press release they would exceed federal and state requirements to protect minority communities from negative impacts when evaluating Duke Energy's applications to store coal ash in landfills. Since then, the department has assessed the potential impact on communities surrounding the proposed on-site coal ash landfill at the Roxboro Steam Electric Plant in Semora, N.C. This assessment has included:

- A review of the facility's coal ash management plan, proposed landfill operations plan and potential exposure pathways to determine impact boundaries.
- Establishment of a one-mile impact radius, which was based on coal ash transportation plans.
- A study of area demographics, completed using the Environmental Protection Agency's Environmental Justice tool (EJScreen) <https://ejscreen.epa.gov/mapper/> and current available census data at: <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.
- A comparison of area demographics to project county census data.
- Completion of a site visit to ensure current available census data was accurate.
- Communicate with local government officials from Person County.

### 2 Project Proposal

Duke Energy intends to ensure clean closure of the ash basins on the Roxboro Electric Steam Station property. Closure plans will include the environmental closure requirements for soil in contact with ash units and will be submitted to NCDEQ in 2017.

### 3 Geographic Area

Roxboro Electric Steam Station is in Semora, N.C. and is situated along the Hyco Lake to the north.

### 4 Regional Setting

Data on race and ethnicity, age and sex, disability, poverty, household income, and limited English proficiency (LEP) populations contained in the following sections are based on the U.S.

Census Bureau's data at a county level. Demographics of Person County were compared to the demographics of the one-mile radius around Roxboro Electric Steam Station, to identify any disparities.

#### 4.1 Race and Ethnicity

According to the 2010 U.S. Census Data QT-P3, Race and Hispanic Origin: 2010; 2010 Census Summary File 1 report, the largest populations within Person County's total population of 39,464 were White (68.3 percent), Black or African American (27 percent) and Mexican (3 percent). The classifications of Some other Race and Two or More Races were also above 1 percent in Person County in 2010.

*Table 1. U.S. Census Bureau, Race and Ethnicity – Person County*

Race and Ethnicity	Person County	
	Number	Percent
Total Population	39,464	100
White	26,968	68.3
Black or African American	10,646	27.0
American Indian or Alaska Native	266	0.7
Asian	116	0.3
Native Hawaiian and Other Pacific Islander	4	0.0
Some other Race	868	2.2
Two or More Races	596	1.5
<b>HISPANIC OR LATINO (of any race)</b>	<b>1,593</b>	<b>4.0</b>
Mexican	1,195	3.0
Puerto Rican	94	0.2
Cuban	33	0.2
Other Hispanic or Latino	271	0.7

#### 4.2 Age and Sex

According to the U.S. Census Bureau, QT-P1, Age Groups and Sex: 2010 Census Summary File 1, Person County has an estimated male and female total population of 39,464. The highest percentage of the Person County population is between the ages of 18 and 64, with a median age of 40.9 for males and 42.8 for females.

*Table 2. U.S. Census Bureau, Age and Sex – Person County*

Person County						
Age	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total Population	39,464	19,137	20,327	100	100	100
Under 5 years	2,369	1,186	1,183	6.0	6.2	5.8
Under 18 years	7,735	3,995	3,740	19.6	20.8	18.4
18 to 64 years	23,367	11,427	11,940	59.2	59.7	58.7
65 years and over	5,993	2,574	3,464	15.2	13.5	17.0
<b>Median Age</b>	<b>41.4</b>	<b>40.1</b>	<b>42.8</b>	<b>X</b>	<b>X</b>	<b>X</b>



### 4.3 Disability

According to the 2014 American Community Survey “Disability Characteristics 1-year Estimate,” S1810 from the U.S. Census Bureau, Person County has an estimated total of 38,880 population of non-institutionalized civilians. Of those civilians, an estimated 17.7 percent have a disability. The highest population of disabled civilians are of the population older than 65 years, with an estimated percentage of 44.1 percent.

*Table 3. U.S. Census Bureau, Disability- Person County*

Subject	Person County					
	Total		With a Disability		Percent with a Disability	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total civilian noninstitutionalized population	38,880	209	6,866	582	17.7	1.5
Population under 18 years	8851	19	351	118	4.0	1.3
Population 18 to 64 years	23,915	129	3817	481	16.0	2.0
Population 65 years and over	6114	177	2698	267	44.1	4.2

#### 4.4 Poverty

The following table was compiled using data from Census Table S1701, "Poverty Status in the Past 12 Months in 2014 for Person County, North Carolina." Estimates from 2014 show there was a population of 38,840 in Person County, N.C. with 19.9 percent living below poverty. An estimated 28.6 percent of Hispanic or Latin civilians living in Person County live below the poverty level; similarly, an estimated 33 percent of Black or African American civilians living in Person County live below the poverty level. These groups represent the highest percentage of civilians living below the poverty level. The data shows that 20.0 percent of White civilians live below the poverty level.

Table 4. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – Person County

Subject	Person County					
	Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	38,840	223	7,741	905	19.9	2.3
AGE						
Under 18	8,767	97	2,218	437	25.3	5.0
18 to 64	23,959	123	4,733	605	19.8	2.5
65 years and over	6,114	177	790	184	12.9	2.9
SEX						
Male	18,964	154	3,709	454	19.6	2.4
Female	19,876	181	4,032	566	20.3	2.8
RACE AND HISPANIC OR LATINO ORIGIN						
White	26,684	290	7,679	904	20.0	2.3
Black or African American	10,713	139	3,534	605	33.0	5.6
American Indian and Alaska Native						
Asian						
Native Hawaiian and Other Pacific Islander						
Some other Race						
Two or more races						
Hispanic or Latino	1,631	6	467	272	28.6	16.7
RACE AND HISPANIC OR LATINO ORIGIN						
All individuals below:						
50 percent of poverty level	2,995	662				
125 percent of poverty level	10,091	993				
150 percent of poverty level	12,100	919				
185 percent of poverty level	14,838	1,004				
200 percent of poverty level	15,935	979				

#### 4.5 Household Income

The following table was completed using data from the Census Table S1901, "Income in the Past 12 Months (in 2014 Inflation-Adjusted Dollars) 2014 American Community Survey 1-Year Estimates for Person County." The household income bracket with the highest estimated percentage (18.7 percent) is \$50,000-to-\$74,999. The median income is \$43,381 and the mean income is \$52,916 for Person County.

*Table 5. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – Person County*

Subject	Person County	
	Households	
	Estimate	Margin of Error +/-
Total	15,326	420
Less than \$10,000	8.8	1.8
\$10,000 to \$14,999	5.9	1.1
\$15,000 to \$24,999	15.5	2.1
\$25,000 to \$34,999	11.7	2.0
\$35,000 to \$49,999	16.7	2.3
\$50,000 to \$74,999	18.7	2.1
\$75,000 to \$99,999	10.7	1.6
\$100,000 to \$149,999	8.0	1.3
\$150,000 to \$199,999	2.8	0.8
\$200,000 or more	1.2	0.6
Median income (dollars)	\$43,381	\$2,134
Mean income (dollars)	\$52,916	\$2,341

#### 4.6 Limited English Proficiency (LEP)

According to the 2014 Census Table B16001, "2010-2014 American Community Survey 5-year Estimates, for Person County," the most common language spoken by people ages 5 and older speaking a language at home other than English was Spanish or Spanish Creole. English was spoken by an estimated 95.5 percent of people in the county. An estimated population of 1,459 people spoke Spanish or Spanish Creole at home, which is approximately 3.93 percent of the total population of Person County. Of the estimated 1,459 people who speak Spanish or Spanish Creole, an estimated 890 speak English "very well" and an estimated 569 speak English "less than very well." Gujarati is spoken by 0.12 percent of Person County residents.

Should a LEP group be identified during the pre-permit issuance process, written translations of vital documents shall be provided for each eligible LEP group. An eligible LEP group is defined as a language group that includes 1,000 civilians or is 5 percent of the population of persons eligible to be served or likely to be affected or encountered. If there are fewer than 50 persons in a language group that constitutes 5 percent of the given population, then the N.C. Department of Environmental Quality would not translate vital written materials. Rather, written notice would be provided in the primary language of the LEP language group of the right to receive competent oral interpretation of those written materials for free. The safe harbor provisions apply to the translation of written documents only. Safe harbor guides follow the EPA guidance for LEP persons.

Roxboro Steam Electric Plant  
Environmental Justice Impact Statement

*Table 6. U.S. Census Bureau, Limited English Proficiency – Person County*

1. LANGUAGE SPOKEN AT HOME	Person County						
	Estimate	Margin of Error (+/-)	Percent of Population	1. LANGUAGE SPOKEN AT HOME	Estimate	Margin of Error (+/-)	Percent of Population
Total (population 5 years and over):	37,039	122	100.00%				
Speak only English	35,400	276	95.55%				
<b>Spanish or Spanish Creole:</b>	1,459	241	3.93%	<b>Other Asian Languages:</b>	3	5	0.00%
Speak English "very well"	890	261	2.40%	Speak English "very well"	1	2	0.00%
Speak English less than "very well"	569	215	1.54%	Speak English less than "very well"	2	4	0.00%
<b>French:</b>	16	22	0.04%	<b>Other Pacific Island languages</b>	12	18	0.03%
Speak English "very well"	16	22	0.04%	Speak English "very well"	12	18	0.03%
Speak English less than "very well"	0	2	0.00%	Speak English less than "very well"	0	0	0.00%
<b>German:</b>	24	26	0.06%	<b>Arabic</b>	12	19	0.03%
Speak English "very well"	24	26	0.06%	Speak English "very well"	12	19	0.03%
Speak English less than "very well"	0	0	0.00%	Speak English less than "very well"	0	0	
<b>Other West Germanic languages:</b>	12	18	0.03%	<b>Chinese:</b>	25	33	0.06%
Speak English "very well"	12	18	0.03%	Speak English "very well"	25	33	0.06%
Speak English less than "very well"	0	0	0.00%	Speak English less than "very well"	0	0	0.00%
<b>Polish:</b>	13	21	0.03%	<b>Korean:</b>	3	5	0.00%
Speak English "very well"	13	21	0.03%	Speak English "very well"	2	3	0.00%
Speak English less than "very well"	0	0	0.00%	Speak English less than "very well"	1	3	0.00%
<b>Gujarati:</b>	44	58	0.12%	<b>Thai:</b>	9	13	0.02%
Speak English "very well"	7	10	0.02%	Speak English "very well"	9	13	0.02%
Speak English less than "very well"	37	49	0.01%	Speak English less than "very well"	0	0	0.00%
<b>Hindi:</b>	7	15	0.02%				
Speak English "very well"	3	7	0.00%				
Speak English less than "very well"	4	8	0.00%				

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

## 5 Local Setting

Data on race and ethnicity, age and sex, poverty, household income, and LEP population contained in the following sections is for U.S. Census Tracts 9202 to display demographics at a tract level. Disability status could only be analyzed on a county level as the information available at the U.S. Census could not be reduced to the tract level. Disability information can be found in Section 5.3. The Census Tract 9202 encompasses all of the Roxboro Steam Electric Plant and is approximately 13 miles by 11 miles in size as shown in Figure 6-1, from the EPA's EJ Screen tool.

Demographic data within a one-mile radius of the proposed coal ash landfill will be discussed in conjunction with Census Tract 9202 data. A one-mile radius was chosen for the assessment of demographics at the Roxboro Steam Electric Plant as there are no plans to transport coal ash onto the site.

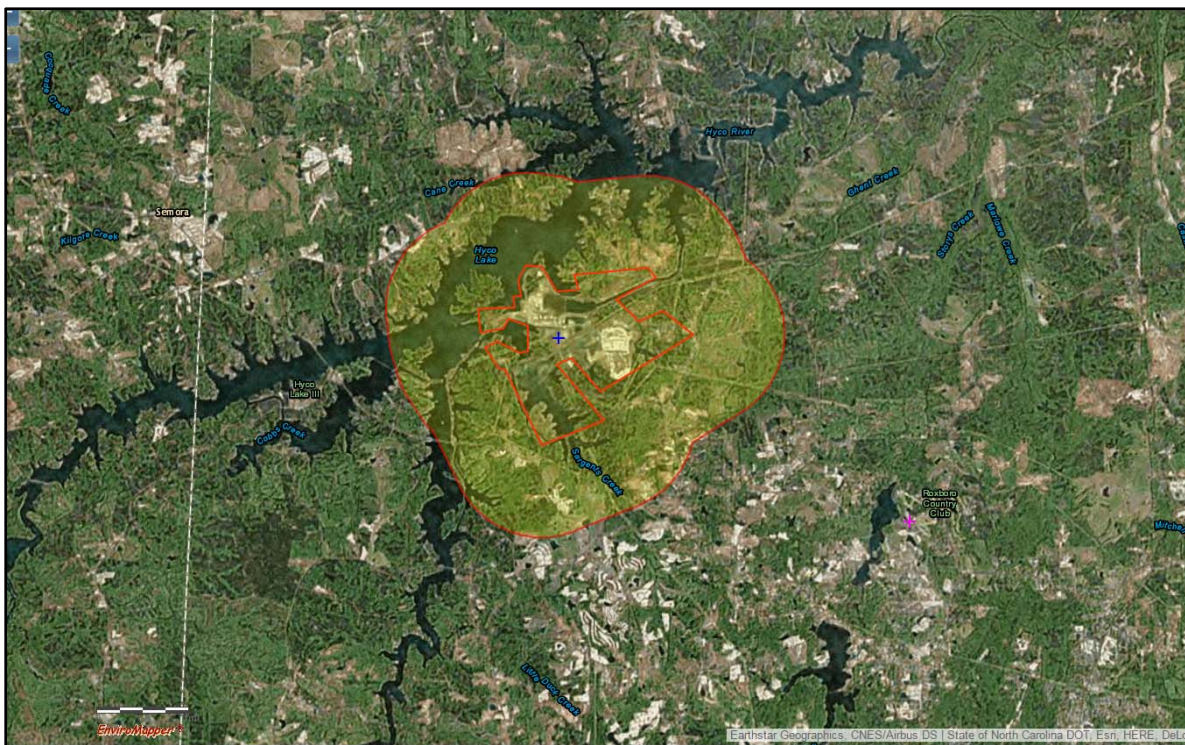


Figure 5-1. Map of One Mile Radius around Roxboro Steam Station

### 5.1 Local Industrial Sites

Roxboro Steam Electric Plant is surrounded by residential and forested areas to the north, west, south and east. There are no local industrial sites within one mile of the plant.

## 5.2 Local Sensitive Receptors

Sensitive receptors include churches, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. No local sensitive receptors were identified within the one-mile radius.

## 5.3 Race and Ethnicity

According to the 2010 US Census Data QT-P3, "Race and Hispanic Origin: 2010; 2010 Census Summary File 1," the highest populations among the 6,915 people living in Census Tract 9202 were White (71 percent), Black or African American (25 percent), and Mexican (3 percent).

Within one mile of the Roxboro Steam Electric Plant, there was an estimated total residential population of 604. The population consisted of 70 percent White, 28 percent Black or African American, and 3 percent Hispanic or Latino (of any race). Twenty-eight percent of the population living within one mile of the proposed landfill is Black or African American, which is 1 percent higher than the county percentage of 27.

*Table 7. U.S. Census Bureau, Race and Ethnicity – Person County - Census Tract 9202 and One Mile Radius*

Race and Ethnicity	Census Tract 9202		One-Mile Radius <sup>2</sup>	
	Number	Percent	Number	Percent
Total Population	6,915	100%	604	100%
White	4,876	71.0%	420	70%
Black or African American	1,763	25.0%	166	28%
American Indian or Alaska Native	0	0.0%	1	0%
Asian	4	0.0%	1	0%
Native Hawaiian and Other Pacific Islander	0	0.0%	0	0%
Some other Race	169	2.0%	9	1%
Two or More Races	103	1.0%	6	1%
HISPANIC OR LATINO (of any race)	241	3.0%	15	3%

#### 5.4 Age and Sex

The following table was completed using data from Census Table QT-P1, "Age Groups and Sex: 2010 for Census Tract 9202, Person County, N.C." as well as the EJSCREEN 2016 tool for the one-mile data. The median age of civilians inhabiting Census Tract 9202 is greater than the median age of the county (41.4) by 3.9 years, 4.4 years, and 3.3 years for the categories Both Sexes, Males and Females, respectively.

Approximately 1.5 percent of the total population of the county resides within one mile of the proposed Roxboro Steam Electric Plant. The majority (64.9 percent) of residents are between 18 and 64 years old.

*Table 8. U.S. Census Bureau, Age and Sex – Census Tract 9202 and One-Mile Radius*

Census Tract 9202						
Age	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total Population	6749	3343	3406	100%	100%	100%
Under 5 years	313	153	160	4.6%	4.8%	4.7%
Under 18 years	1215	624	591	26.2%	18.7%	17.4%
18 to 64 years	4094	2040	2054	58.4%	61.0%	60.3%
65 years and over	1127	526	601	15.4%	15.7%	17.6%
<b>Median Age</b>	<b>45.3</b>	<b>44.5</b>	<b>46.1</b>	<b>X</b>	<b>X</b>	<b>X</b>
One-Mile Radius						
Age	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total Population	604	304	300	100%	50%	50%
Under 5 years	28				4.6%	
Under 18 years	94				15.5%	
18 to 64 years	392				64.9%	
65 years and over	90				14.9%	
<b>Median Age</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

## 5.5 Poverty

The following table was compiled using data from Census Table S1701, "Poverty Status in the Past 12 Months in 2014 for the Census Tract 9202, Person County, N.C." EJSCREEN was also used to acquire the data used for the one-mile radius. Within Census Tract 9202, considering the margin of error of the U.S. Census Bureau, there are no populations identified as living below poverty. These data are presented in Table 9.

EJSCREEN 2016 Tool did not give sufficient data to determine the estimated percentage below poverty within a one-mile radius of the proposed Roxboro Steam Electric Plant. Estimated household income was reviewed as a source of general income.



Table 9. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – Census Tract 9202 and One-Mile Radius

Subject	Census Tract 9202						One Mile Radius					
	Total		Below poverty level		Percent below poverty level		Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	6,853	471	988	401	14.4		563	418				
<b>AGE</b>												
Under 18	1,551	302	278	237	17.9		154	280				
18 to 64	4,142	310	576	235	13.9		439	291				
65 years and over	1,160	138	134	74	11.6		44	131				
<b>SEX</b>												
Male	3,538	334	502	226	14.2		314	247				
Female	3,315	271	486	215	14.7		250	286				
<b>RACE AND HISPANIC OR LATINO ORIGIN</b>												
White	4,846	578	536	236	11.1		391	395				
Black or African American	1,735	340	443	333	25.5		156	284				
American Indian and Alaska Native	0	17	0	17	0		3	19				
Asian	0	17	0	17	x		4	20				
Native Hawaiian and Other Pacific Islander	0	17	0	12	x		0	13				
Some other Race	169	186	0	17	0.0		5	202				
Two or more races	103	80	9	15	8.7		4	21				
Hispanic or Latino	241	199	0	17	0		72	223				
<b>All individuals below:</b>												
50 percent of poverty level	332	190										
125 percent of poverty level	1,469	485										
150 percent of poverty level	1,814	485										
185 percent of poverty level	2,339	493										
200 percent of poverty level	2,667	443										

Source: U.S. Census Bureau, American Community Survey (ACS) 2010-2014

## 5.7 Household Income

The following table was compiled using data from Census Table S1901, "Income in the Past 12 Months (In 2014 Inflation-Adjusted Dollars) for the Census Tracts 9202, Person County, N. C." The one-mile data was acquired using EJSCREEN 2016 data. In Census Tract 9202, the income bracket with the highest percentage of households is \$50,000-to-\$74,999. This is 1.5 percentage points higher than the same income bracket in the county as a whole. The median income for Census Tract 9202 is \$1,266 higher than the county. The mean income within the Census Tract 9202 is \$3,158 higher than the county.

Within one mile, an estimated 21.8 percent of households have an income of less than \$10,000 to \$14,999; this is higher than the county percentage of 15.5. An estimated 28.2 percent of households have an income between \$25,000 and \$49,999.

Table 10. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – Census Tract 9202 and One-Mile Radius

Subject	Census Tract 9202		One-mile Radius	
	Households		Households	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Total	2,787	211	284	
Less than \$10,000	7.5%	3.7	21.8%	
\$10,000 to \$14,999	4.6%	3.0		
\$15,000 to \$24,999	14.2%	4.3	7.6%	
\$25,000 to \$34,999	13.5%	5.2	28.2%	
\$35,000 to \$49,999	18.4%	5.1		
\$50,000 to \$74,999	20.3%	5.7	21%	
\$75,000 to \$99,999	8.8%	3.3	21.8%	
\$100,000 to \$149,999	6.6%	2.5		
\$150,000 to \$199,999	3.2%	2.2		
\$200,000 or more	2.8%	3.2		
Median income (dollars)	\$44,647	\$3,937		
Mean income (dollars)	\$56,074	\$8,753		

### 5.8 Limited English Proficiency (LEP)

The following table was compiled using data from Census Table B16001, "Language Spoken at Home by Ability to Speak English for the Population 5 years and over, 2014 estimate for the Census Tract 9202, Person County, North Carolina." The Spanish or Spanish Creole population within Census Tract 9202 total an estimated 332 people, making up 5 percent of the total estimated population for Person County.

EJSCREEN 2016 did not give sufficient data to determine estimates of languages spoken at home within a one-mile radius of the proposed Roxboro Steam Electric Plant.

*Table 11. U.S. Census Bureau, Limited English Proficiency – Census Tract 9202 and One-Mile Radius*

1. LANGUAGE SPOKEN AT HOME	Census Tract 9202			One-Mile Radius		
	Estimate	Margin of Error (+/-)	Percent of Population	Estimate	Margin of Error (+/-)	Percent of Population
Total (population 5 years and over):	6,624	519	100.0%	563	418	
Speak only English	6,279	548	94.7%			
<b>Spanish or Spanish Creole:</b>	332	214	5.0%			
Speak English "very well"	72	62	1.1%			
Speak English less than "very well"	259	211	3.9%			
<b>French:</b>	2	3	0%			
Speak English "very well"	2	3	0%			
Speak English less than "very well"	0		0%			

### 6 Field Reconnaissance

On Aug. 16, 2016, the N.C. Department of Environmental Quality staffers Sarah Rice, an environmental senior specialist, and Shannon Aufman, an engineering project manager, visited the area of the Roxboro Steam Electric Plant to corroborate the EPA EJScreen data, which was populated within one mile of the proposed landfill.

### 6.1 Demographic Analysis of Potential Area of Concern

According to the EPA EJSCREEN, which is a summary of 2010-2014 population data, no historically underserved community exists within one mile of the Roxboro Electric Steam Station. The department made this determination after completing a study of area demographics through EJSCREEN, U.S. Census Bureau, and site reconnaissance.

### 6.2 Actions Completed by the Department

After analyzing the data, the department did not identify any communities within one mile of the Roxboro Electric Steam Station. However, in an effort to communicate with the public and public officials, the department has completed or will complete the following:

- Contact local government authorities to solicit feedback on the environmental justice process surrounding the proposed landfill.

#### 6.2.1 Discussion with Public Officials

The department has communicated with the public and public officials in communities within the one-mile boundary regarding the environmental justice efforts. On Sept. 14, 2016, N.C. Department of Environmental Quality's staff members, including Rice, Aufman, and Ed Mussler, the permitting branch supervisor, contacted Person County Manager Heidi York. The county manager was receptive to the information received regarding the environmental justice evaluation. York indicated members of the community were well-informed residents and agreed with the department's position that no additional communication was needed.

## 7 Summary of Potential Adverse Environmental and Human Health Effects and Analysis of the Potential for Disproportionately High and Adverse Effects.

Potential impacts and their mitigation during the construction and operation of the proposed landfill are summarized below.

### 7.1 Traffic

Coal ash from the basins will be staying on-site and will be disposed of within the proposed landfill once the proposed landfill is constructed.

### 7.2 Potential releases of CCRs to the environment

Potential migration pathways for contamination from coal combustion residuals includes leaching, migration to groundwater, erosion and transport to soil and surface water, and wind erosion/dust migration.

#### 7.2.1 Leachate Collection System

It is anticipated that leachate generated at the proposed landfill will ultimately discharge to a publicly-owned treatment works (POTW) for treatment. Modifications to the Engineering and Facility Plan may be required pending ongoing discussions with the POTW.

#### 7.2.2 Erosion and Sedimentation Control

Erosion and sedimentation control (E&SC) during landfill operations would consist of monitoring and repairing E&SC stormwater conveyance features and surface erosion.

Erosion control principles could include:

- Disturbing as little area as practical at any one time for landfill operations.
- Seeding/mulching of disturbed areas commencing as soon as practically possible.
- Employing erosion control matting or seeding and mulching on steep slopes and other erosion prone areas.
- Use of earthen berms, hay bales, wattles, silt fences, riprap, or equivalent devices downgradient of disturbed areas, stockpiles, drainage pipe inlets and outlets, and at intervals along grassed waterways, until permanent vegetation is established.
- Placement of riprap at the inlets and outlets of stormwater piping

Surface erosion monitoring at a landfill could include:

Adequate erosion control measures could be established to help prevent sediment from leaving the site. Channels would be inspected once every seven days and within 24 hours of any rainfall event of 0.5 inches or greater.

Slopes will be periodically checked for erosion and vegetative quality, fertilized and mowed. A slope or portion of the slope shall be identified as needing maintenance if it meets any one of the following conditions:

- Exposed waste on exterior slopes;
- Areas of cracking, sliding or sloughing; or
- Areas of seepage.

Slopes identified as needing maintenance shall be repaired as soon as practical and as appropriate to correct deficiencies. Repair activities may include re-dressing the slope, filling in low areas, and/or seeding.

### 7.2.3 Dust Control Plan

The primary potential source of dust emissions in the landfill is the top deck area and active area of waste placement. These areas are at a higher risk for producing dust due to vehicular and equipment traffic and earthworks like construction. Exterior landfill slopes are less of a dust control concern, as they have intermediate or operational soil covers, which are vegetated as required in the Operations Plan.

Dust emissions from the landfill can be controlled through a variety of dust control methods. Possible dust control methods are identified here. Dust control methods may be characterized as products and/or applications, structural wind breaks and/or covers, and operational methods.

Dust control methods for the proposed landfill area could include:

- Watering
- Establishing vegetative cover
- Mulching
- Structural controls fencing
- Wind breaks
- Temporary coverings
- Calcium chloride
- Spray applied suppressants
- Soil stabilizers
- Operational soil cover
- Modifying the active working area
- Modifying operations during dry and windy conditions

## 8 Conclusion

Roxboro Steam Electric Plant is a Duke Energy-owned property in Person County, in Semora, N.C. and is south of Hyco Lake. This report examined the demographic and environmental conditions in Person County, as well as census tract 9202, and a one-mile radius around the Roxboro Steam Electric Plant to determine any disproportionately high or adverse environmental and human health effects on low-income or minority populations. No low-income or minority populations were identified within one mile of the Roxboro Electric Steam Plant. Staff in the N.C. Department of Environmental Quality communicated with the Person County manager to discuss the findings of the environmental justice assessment.